basis. Also, polyamines may contribute to the decreased rate of photodimerization of pyrimidines observed in vivo[3].

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DNA DAMAGE AND REPAIR IN ULTRAVIOLET LIGHT-IRRADIATED INTACT PLANTS

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Excision-repair of ultraviolet (UV) light-induced pyrimidine dimers is a widespread DNA repair mechanism. However, attempts to demonstrate it in plants failed for a long time until recently when some evidence for it was obtained by Howland[1] in cultured carrot protoplasts. We used intact water plants to study this problem. The induction of dimers was linear initially, up to doses of $1x10^4$ ergs mm^{-2} (producing 2% pyrimidine dimers), and was about two times faster in etiolated plants. Following irradiation with doses of 2500 erg mm^{-2} and less, dimers were found to disappear from DNA during 24 h incubation in the dark. The extent of excision was dose-dependent and exceeded 50% at the lowest dose studied (1500 erg mm^{-2}). Photoreactivation of the dimers could also be demonstrated during 2 h postirradiation incubation in the light.

In addition to the known pyrimidine dimers, UT and TT, unidentified peaks appeared on the radiochromatograms of DNA hydrolysates from plants, with similar mobilities to those shown earlier under different conditions[2]. The nature of these products is under investigation.

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A COMPUTER PROGRAM FOR CHARACTERIZATION OF RADIATION DAMAGE IN CHROMOSOMES OF LYMPHOCYTES GROWN IN TISSUE CULTURE

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Heparinized peripheral blood was treated as described previously[1]. Each karyotype was carefully examined and an effort was made to relate each change to a certain chromosome group. The findings for each karyotype were coded. Up till now about 1500 cells subjected to several different treatments have been examined. Data were collected and analyzed by means of specially